

## **REMARKS**

Claims 1 and 9-22 are pending. The specification has been amended to include issued patent numbers. Claims 1, 16, and 17 have been amended. The amendment to Claim 1 merely corrects an inadvertent typographical error. Support for the amendments to Claims 16 and 17 can be found throughout the specification, for example on page 22, lines 7-12. No new matter has been added as a result of the amendments.

### **1. Priority**

Applicant has amended the specification to recite patent numbers where appropriate in the section entitled “Cross Reference.”

### **2. Claim Objections**

Applicant has amended Claim 1 to fix the inadvertent typographical error noted by the Office; the amendment to the claim in no way limits the scope of the claim.

### **3. Claim Rejections – 35 USC § 112, 2<sup>nd</sup> Paragraph**

The Office Action has rejected claims 16 and 17 (and its dependent claims 18-22) under 35 USC § 112, 2<sup>nd</sup> paragraph under the assertion that the phrase “controlled array of cell types” is vague and indefinite. Specifically, the Office Action asserts that it is unclear as to how the term “controlled array” limits the term “cell types.” Applicant respectfully traverses these assertions.

Nevertheless, solely in order to expedite prosecution, Applicant has amended claims 16 and 17 to recite “selectively bound array of cell types,” which is fully supported by the specification, for example on page 22, lines 7-12. These amendments in no way limit the scope of the claims. Applicant contends that as amended, claims 16 and 17 (and its dependent claims 18-22) are not vague and indefinite, and respectfully requests reconsideration and withdraw of their rejection under 35 USC § 112, 2<sup>nd</sup> paragraph.

### **4. Claim Rejections – 35 USC § 103(a)**

The Office Action has rejected all pending claims under 35 USC § 103(a) under the assertion that they are obvious over Hollis (US 5,846,708) in view of Cherukuri (US 5,980,704). Specifically, the Office Action asserts that Hollis teaches element (a) in claim 1 and elements (a)

and (b) in claim 17, and that Cherukuri teaches the lacking elements. Applicant respectfully traverses these assertions.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify a reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the combination of references must teach or suggest the claim limitations. *MPEP 2143*.

Applicants respectfully contend that the Office Action has failed to establish a *prima facie* case of obviousness. The Office Action, in paragraph 17, makes a generalized assertion that Cherukuri teaches the steps lacking in Hollis with the motivation of providing proper control and delivery system for regulating and distributing reagents to the reaction cells. "To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *MPEP 2142*, citing *Ex parte Clapp*, 227 USPQ 972 (Bd. Pat. App. & Inter. 1985). Further, "the examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness." *Id.* In the instant case, the Office Action has merely provided a generalized statement of the motivation to combine Hollis and Cherukuri; the Office Action has provided neither a line of reasoning as to why one of skill in the art would have found the invention obvious, nor any factual support for the assertion of motivation to combine. As such, Applicant respectfully contends that the Office has failed to meet its burden in establishing a *prima facie* case of obviousness.

Furthermore, Applicant respectfully contends that the Office cannot establish a *prima facie* case of obviousness. As an initial matter, the art cited by the Office Action is not within the field of endeavor of the present invention. Hollis teaches a semiconductor chip for the electrical or optical detection of oligonucleotides. Cherukuri teaches a device for performing combinatorial synthetic chemistry. "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *MPEP 2141.01(a)*, citing *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992). As neither Hollis nor Cherukuri are concerned with cassettes for cell screening, they do not relate to the instant invention and thus cannot be regarded as relevant prior art.

Even assuming arguendo that Hollis and Cherukuri are related art, a *prima facie* case of obviousness cannot be met as there is no motivation to combine the two references.

Significantly, “the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” *MPEP 2143.01*. Neither Hollis nor Cherukuri provide, either explicitly or impliedly, a teaching, suggestion, or motivation to combine their respective teachings to arrive at the claimed invention. Nor would one of ordinary skill in the art be motivated to combine the teachings of Cherukuri with those of Hollis. The instant invention is directed toward a cassette for cell screening to be used in high throughput and/or high content screening of the physiological response of living cells to various drug candidates. One of skill in the art would not look to a system for combinatorial synthetic chemistry as taught in Cherukuri in fashioning such a device.

Furthermore, both Hollis and Cherukuri teach away from the present invention. Hollis teaches the use a microfluidic system *adjacent* to the array of test sites, in contrast to the present invention where the fluid delivery chamber *mates* with the base. See Figures 18 and 19 of Hollis. Furthermore, the microfluidic channels of Hollis deliver fluid to the *entirety* of the array (see column 14, lines 32-33), rather than to individual test sites, in contrast to the claimed invention of the instant application, where the microfluidic channels supply fluid to the *domains matching the wells* of the base. Thus Hollis teaches away from the instant invention.

Cherukuri also teaches away from the present invention. The device of Cherukuri is “pretreated to eliminate surface adsorption of proteins and related bio-materials” (see column 6, lines 40-42), contrary to the instant invention in which cells are to be adhered to the surface of the base. Furthermore this teaching would lead one of skill in the art *away* from the combination of Cherukuri and Hollis, as Hollis teaches a device where DNA probes (bio-materials) are adhered to the test sites within an array.

Based on the above, Applicant respectfully requests the Office reconsider and withdraw the rejection of the pending claims under 35 USC § 103(a) as being unpatentable over Hollis in view of Cherukuri.

## CONCLUSIONS

Applicant respectfully contends that the instant application is in condition for allowance in view of the claim amendments and arguments presented above, and respectfully requests it be allowed. If the Examiner believes that a telephone or personal interview would expedite prosecution of the instant application, the Examiner is respectfully invited to call the undersigned attorney at (312) 913-2106.

Respectfully submitted,  
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Date: \_\_\_\_\_

6/23/05

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